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Activity-Based Total Quality Management at American Express

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Product costing and a quality strategy are related in the sense that both seek answers to difficult questions of how and where information workers spend their time. This article illustrates how activity-based costing contributes not only to the achievement of accurate product costs, but also to improved quality at American Express Integrated Payment Systems (IPS). Activity costs at IPS were determined by asking each manager to estimate the time that his department spends on each activity, then splitting those activity estimates across each product line. To achieve the objectives of total quality management (TQM), these activity costs were augmented with perceptual data that various stakeholders expressed about the activities. The article suggests how similar approaches to TQM can benefit other service organizations or the service functions of manufacturing companies.

At American Express, a commitment to total quality management (TQM) comes from the top. The Chairman, CEO, and Chief Quality Officer at American Express is James D. Robinson III, who stresses that quality must be integrated with business strategy. As a result, business unit heads must present their strategy for quality improvements as part of their annual budget and business plans.

It was mandated that each American Express business unit should undergo a self-assessment based on the criteria specified in the guidelines for the Malcolm Baldrige National Quality Award. American Express wants to ensure that its investments in training and technology are paying off.

Will the changes at the American Express business units improve the bottom line? The activity-based costing (ABC) method used at American Express Integrated Payment Systems (IPS) in Denver can help answer this question. [1]

TQM and ABC at American Express

IPS manages one of the oldest financial services American Express has: American Express Money Orders. Introduced in 1882, customers use money orders to pay bills and make mail-order purchases. Money orders provide a stable source of income that has helped support IPS's entry into markets for similar financial services, including:

- American Express MoneyGram, which is a relatively new and rapidly growing service that lets consumers transfer funds around the world, usually within minutes;
- American Express Official Checks, which are negotiable instruments that financial institutions use as substitutes for their own disbursement items (e.g., teller checks and loan checks); and

- Cash Management Services, a service that works as an electronic clearinghouse to collect, concentrate, and disburse funds and data for corporations and financial institutions.

Early in 1990, IPS instituted a TQM philosophy that would involve all 1,000 employees in the Denver metro area. Charlie Fote, the president of IPS, hired Brian Higgins as director of quality assurance to lead this initiative.

Fote and other IPS executives were unaware of any particularly troublesome quality problems; in fact, IPS was (and remains) a service leader in the markets it serves. Instead, the reason for pursuing TQM was to expand IPS's competitive advantages by improving service and to increase income without increasing costs.

Defining continuous improvement.

Defining continuous improvement in a service organization is a difficult task. In defining and measuring quality, the quality assurance staff at IPS tried to answer the following questions:

- In the spirit of TQM, how do our customers and suppliers feel about the reliability of the activities we perform or about the contribution that those activities make toward their requirements?
- What do our employees do that contributes value to our services or that advances our company mission?
- Conversely, what do our employees do that does not contribute value?

The restructuring imperative

In an article in the *Harvard Business Review*, Stephen S. Roach states:

> Services need an accounting framework that can identify which activities add the most value… Activity-based managerial accounting is a step in the right direction, but much more work in this area remains to be done… It should go without saying that a metric for quality is equally important. Admittedly, quality in the service sector is hard to define.[2]

As this quotation suggests, the improvement of white-collar productivity has not been embraced by business leaders, probably because of the nature of knowledge work. Poor productivity is difficult (if not impossible) to remedy. Many people consider knowledge work unstructured, self-directing, and intangible. It is often difficult to relate activity costs to the value provided. Nonetheless, improving white-collar productivity is not a hopeless task. Many managers simply do not understand the difficulties associated with assessing and improving the productivity of knowledge workers; they also lack the tools needed to adequately address the problem. IPS appears to have made important progress, however.

Activity-based TQM

The TQM initiative at IPS began by getting all employees involved in continuous improvement efforts. Customer satisfaction, vendor satisfaction, and employee satisfaction were processes that were assessed regularly, and efforts were made to gain a better understanding of the activities and performance measures at IPS.

Activity analysis began in the customer service department and telephone operations and quickly became interwoven with concerns about product costing. In particular, senior management wanted to manage growth better by gaining a better understanding of fixed versus variable costs for each product line. Product costing was connected with the quality strategy because both efforts tried to answer the

difficult questions of how and where information workers spent their time.

ABC is central to recent efforts to redesign cost accounting systems to account for a wide variety of changes that have occurred in high-technology manufacturing and service firms. These changes require accountants and all other employees to alter their mindsets away from cost accounting toward "cost management." Cost management emphasizes an active approach to planning and managing an organization's costs, whereas cost accounting usually focuses on the historical reporting of costs.[3]

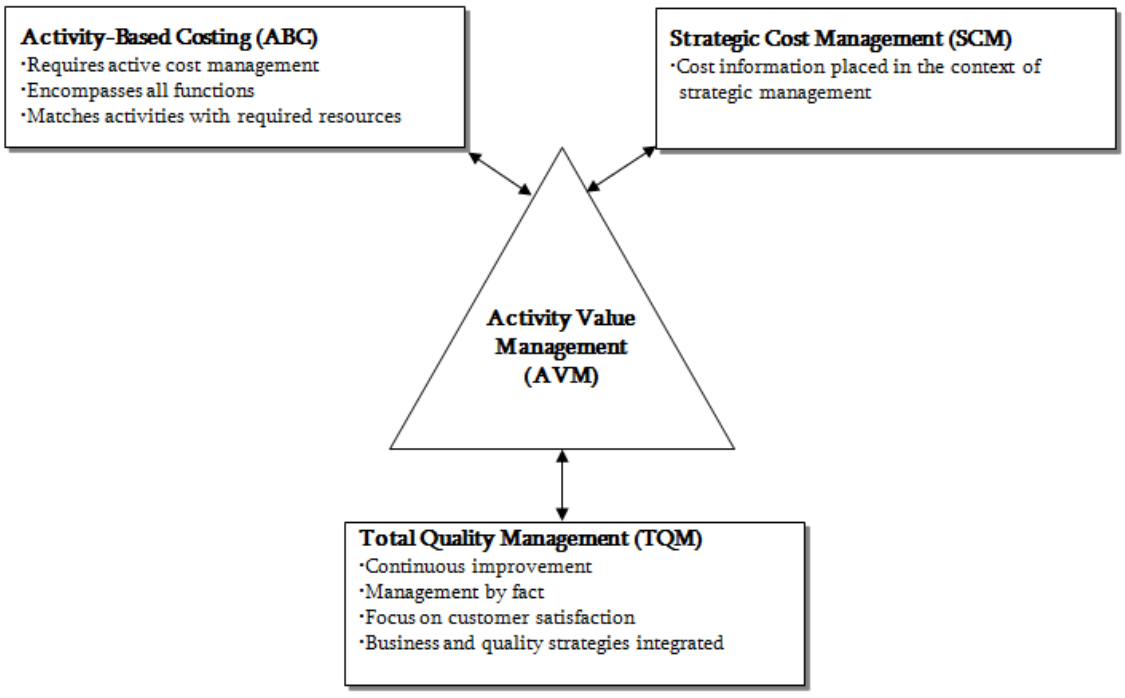
Cost management integrates consideration of corporate strategy, which leads to the notion of strategic cost management (SCM),[4] which is closely related to the *Activity Value Management* (AVM) approach used at IPS (see Exhibit 1). Managers at IPS have explicitly tied the results of AVM studies to achievement of the company's TQM strategy and its product strategies.

Value engineering

The AVM approach has its roots not in accounting but in value engineering, which is a technique for increasing the *value* of a product or organization rather than simply decreasing its cost. A product-oriented value engineering study, for example, would first create a functional description of a physical product, then map the product's parts into the functions that those parts perform. Thus, a costed functional description is produced. Customers' requirements are balanced with the costs of the functions in assessing value.

Cross-functional analysis. During the 1960's General Electric refined some of the value engineering disciplines developed during the 1940's, which had proved useful in reducing material costs. GE's refinement, which is called *cross-functional analysis*, was designed to examine cross-functional effort applied to organizational activities.

Exhibit 1. *Activity-Based Total Quality Management*



Using cross-functional analysis, a business model is constructed that contains the activities performed throughout the entity. Typically, 150-250 such activities are defined and grouped into major business processes. Effort and cost are then recast into this business model. The contribution of each functional organization is examined to identify specific activities that are unique or that contain duplication, redundancy, or overlap. An organization's resources are then redeployed – added to some activities or reduced in others – to increase the value of the business to employees and to customers. Brian Higgins worked as a value engineer when he began designing AVM which was introduced a decade before activity-based costing; his efforts began with no knowledge of GE's cross-functional analysis.[5]

Phases of an AVM project plan

As Exhibit 2 shows, AVM uses a five-phase project plan for analyzing and improving organizational performance. Although the duration of a complete AVM project varies according to the scope and complexity of the organization, a project can usually be completed within sixteen weeks.

Project planning phase. The first phase – the project planning phase – is guided by the AVM project leader, who carefully selects a small team to conduct the study. Depending on the scope of the project, from two to ten people may be required, either part or full time. The project leader typically introduces the objectives and plan for the AVM study in a meeting of all managers involved.

Data collections phase. In the data collection phase, AVM project team members gather information by using standardized data collection forms. They conduct interviews with three questions in mind:

1. If the organization worked in the most efficient and effective manner, how would things be organized, and how would the activity be performed?
2. What inhibits the organization from working in the most efficient and effective manner?
3. How else can the activity be provided?

Exhibit 2. *AVM Project Plan*

- ☐ **Project Planning**
  - Understand the scope and structure of the organization to be studied
  - Establish the hierarchy of activities
  - Plan the duration of the project and identify critical milestones
- ☐ **Data Collection**
  - Interview all managers and select customers and vendors
  - Document interviews
  - Enter data into the AVM database
- ☐ **Synthesis**
  - Run reports from the AVM database
  - Identify major issues
- ☐ **Data Analysis**
  - Select opportunities for change
  - Perform analysis using AVM data
  - Identify preliminary recommendations
- ☐ **Recommendations**
  - Prepare final report
  - Present recommendations to executive management

Final three phases. The last three phases of the AVM project plan are crucial for building consensus among the team members and management. Specialized corrective action teams are established at the start of the data analysis phase. These teams champion changes through the collaborative participation of all affected individuals, departments, customers, and suppliers. A corrective action team retains control of the project until final recommendations are presented to management, and often until final implementation is completed.

As Higgins point out, crucial assumptions are made when (as in many traditional accounting systems) a large proportion of product costs are allocated from pools of overhead expense. One half of IPS's expenses, for example, were allocatged overhead, but the accountants at IPS admitted that they were comfortable with only 15 percent of the allocations.

The improvement of white-collar productivity has not been embraced by business leaders, probably because of the nature of knowledge work.

For example, data processing expenses were allocated to products based on the volume of transactions. Since IPS processes hundreds of thousands of money orders per day, money orders received the lion's share of data processing allocations, even though everyone admitted that MoneyGram's on-line systems were more CPU-intensive per transaction. Higgins concludes, "You have to question the assumptions people made when their decisions are based on allocating huge overhead pools to products. Such assumptions are often wrong!" By directly allocating expenses to activities and to products, a more accurate picture can be obtained.

Defining activities

The foundation of the AVM model lies in the concept of activity – i.e., a response to the question "What does the organization do?"

An activity can best be stated as a brief verb-noun description of a process: for example, "resolve customer problems" or "coordinate corrective action." Unlike GE's cross-functional analysis and many applications of ABC, AVM derives significant benefits from using a hierarchical structure of activities (see Exhibit 3). Thus, a response to the question "How is this activity performed?" leads from left to right in Exhibit 3 from the general to the more specific activities in the hierarchy.

Conversely, a response to the question "Why is an activity performed?" leads from specific to more general activities (i.e., from right to left in Exhibit 3). This structure permits both macro- and micro-level analyses of an organization. The level of detail expressed by these activities depends on the purpose for which the AVM model is used.

AVM has been applied to individual work groups as small as five people as well as to organizations having 1,000 employees and overhead expenses exceeding $60 million. In small departments, for example, the activities may address such processes as "document customer problem" or "reconcile invoices," whereas in large organizations the activities are conceptualized at a higher level (e.g., "research market," "establish pricing," or "identify inventory variation"). Exhibit 3 shows the top levels of an activity hierarchy for IPS.

Linking activities to business and quality strategies

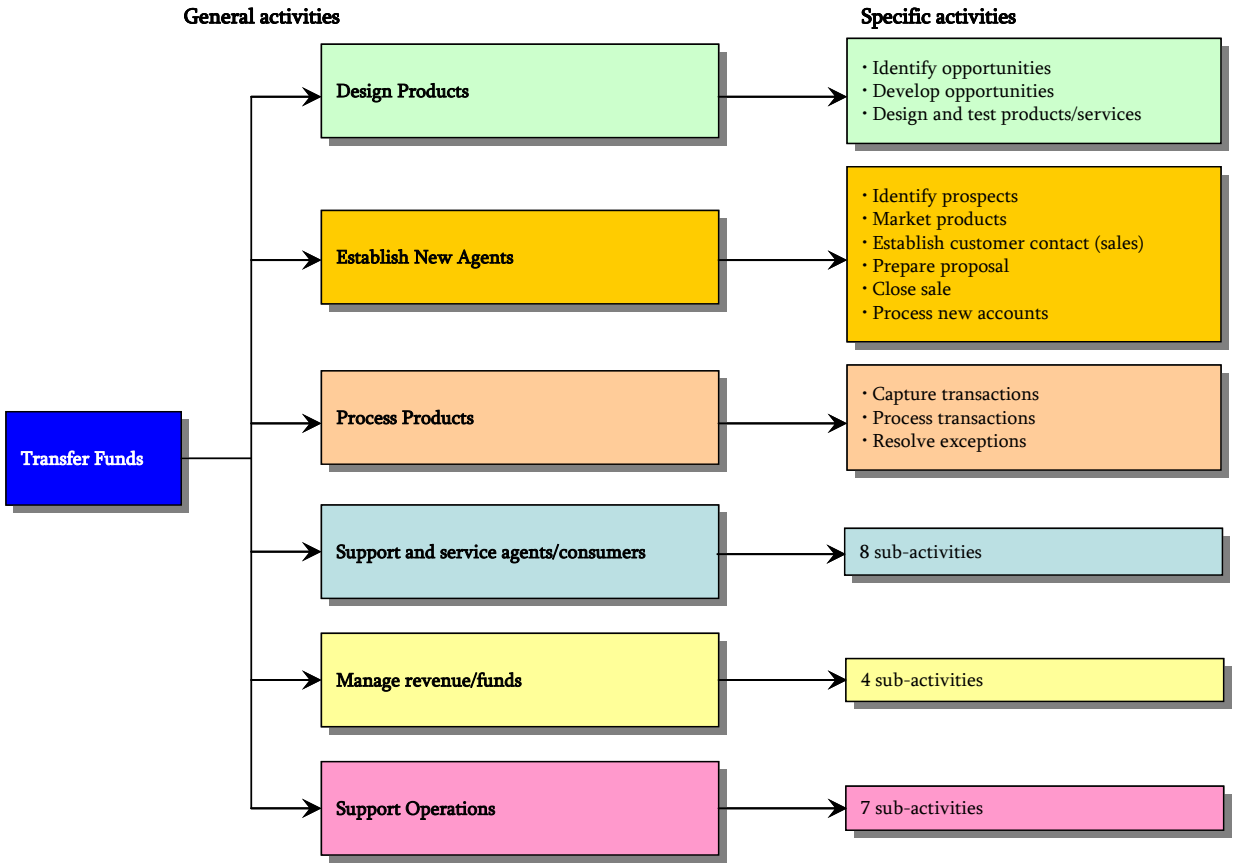
AVM begins by defining the costed hierarchy of activities, but it does not end there. An activity structure provides the basis for assembling information that can later be used in creating and evaluating solutions to problems and in linking activities to business and quality strategies (see Exhibit 4).

Managers follow an incremental process for constructing an organizational model that begins with the definition of a costed activity set. Each activity's cost is determined by assigning a fraction of each person's time (and

therefore salary) or a fraction of a departmental expense item to a particular activity. Thus, all the organization's costs are allocated to the activity hierarchy. The fractions are determined by a variety of methods (e.g., time sampling or interviews with managers), depending on the scope of the organization. Once costs are allocated, additional information is collected and related to the model.

Quantified data consists of rating each activity for its contribution and reliability on ten-point scales. Perceptual data includes verbal comments that provide either favorable or unfavorable opinions about one or more activities. This data is crucial for satisfying the objectives of TQM. The Malcomb Baldrige criteria place 30 percent of their emphasis on customer satisfaction; the activity hierarchy provides a framework for comprehensive assessment of satisfaction across the total business.

Exhibit 3. Activity Hierarchy



Non-financial information

The principal non-financial information used consists of attitudes of customers and suppliers – those who receive the outputs of the organization and those who supply its inputs. This attitudinal information includes both quantified variables and statements of perceptions (see the box "Customer and Supplier Comments" in Exhibit 4).

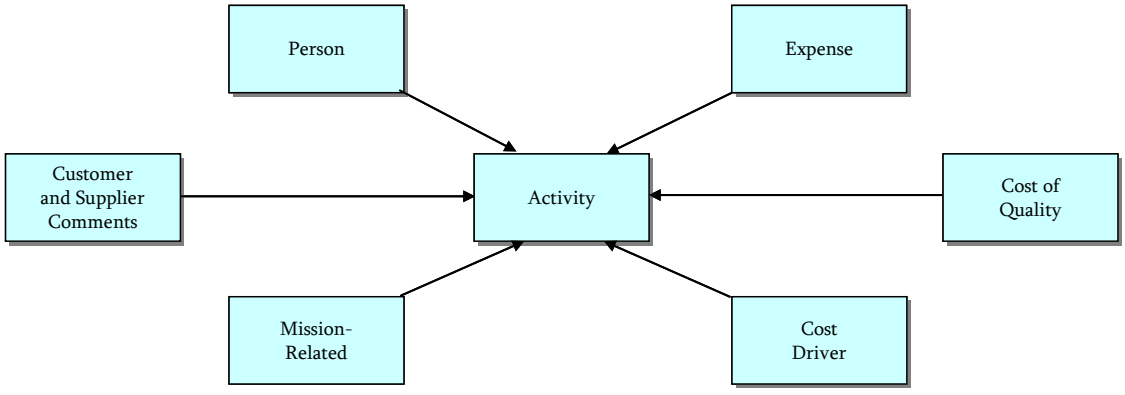
Classifying activities as mission-related or not

Each activity is also classified as being either mission-related or not (see Exhibit 4). Information about cost drivers – i.e., those events or environmental situations that cause costs to be

incurred – may also be associated with each activity. These two information sources work in tandem to tell managers which activities contribute to accomplishing business strategies and how costs are generated.

cost of prevention, while "resolve customer problems" is a cost of external failure.) Computing cost of quality this becomes trivial; all that has to be done is to sum the activity costs in each category.

Exhibit 4. Activity-Based Organization Model



Cost of quality

Activities may be associated with one of the four "cost of quality" categories (i.e., prevention, appraisal, internal failure, and external failure) or with the "cost of business" (e.g., advertising or production).

Many companies have spent years developing an accounting system that can estimate the cost of quality (though few service organizations attempt such analyses). Using AVM, however, an accurate estimate can be produced in a matter of hours. Although many people express disbelief that the cost of quality can be computed so quickly, with an activity and cost database as extensive as the one developed for an AVM study, the assignment becomes straightforward. The activities are so detailed that each one is simply assigned to a cost of quality category or split between two categories. (The activity "train agents," for example, is a

An AVM study is a relatively short – but intensive process. After data is collected, the information is entered into a proprietary software program, which produces summary reports for analysis. The study of all 1,000 employees at IPS took about two months to gather all the data, then another two months to analyze the data and to develop initial recommendations. Since the AVM team consisted of twelve part-time members, it was possible to conduct the study without disrupting ongoing organizational processes.

Restructuring through AVM analysis

In discussions of advanced manufacturing techniques, it is often stated that implementation of just-in-time processes uncovers a "hidden factory" of overhead expenses for logistical, balancing, quality, and change transactions, all of which account for a large portion of the effort expended in production.[6] Similarly,

service organizations may discover overhead expenses that were previously obscure by identifying "hidden service providers." This point is clearly illustrated by a situation uncovered through the AVM study at IPS. The following example provides a fictionalized example of this situation.

Example of MIS manager. John, the vice-president of management information systems at IPS, spends several thousands of dollars each year traveling to customer sites. Under the conventional accounting system, these expenses were charged to the travel accounts in his department. Meanwhile, directors of customer service departments for each product line reviewed their respective budgets and believed they were managing all costs of customer service. As AVM revealed, however, customer service costs were higher than the costs indicated by the conventional cost system. Since 100 percent of John's travel was related to supporting customers and resolving their problems, all his travel costs were allocated to the sub-activities "support and service agents and customers." As this example shows, IPS discovered that John was a hidden service provider; the true cost of customer service was higher than had been thought.

Example of controller. The controller at IPS also discovered hidden service providers. Costs related to the activity "administer financials" range far beyond the Accounting Department's budget as it exists in typical cost accounting systems. At first glance, the controller believed that the AVM data were wrong, because the reported costs were twice what he expected. After reviewing the details, however, he agreed that the numbers were right. Managers throughout the company "help" the controller with such activities as "budget/forecast operations" or "document employee travel and entertainment expenses (T&E)." Similarly, in the Human Resources Department, all managers contribute to the activities "hire exempt employees" or "review employee performance." In each of the three examples, the actual cost incurred to provide these activities far exceeds the apparent cost shown in the respective department's budget.

The realization that actual activity costs often significantly exceed or fall short of presumed costs is of central importance in promoting and guiding restructuring. Restructuring is promoted by creating disenchantment with the status quo; it is guided by providing a sound basis for restructuring decisions.

Many managers simply do not understand the difficulties associated with productivity of knowledge workers or else they lack the tools needed to adequately address the problem.

Promoting efforts to restructure

Managers resist change[7] – or, at least, they resist unfounded or unjustified change. Once a foundation has been laid and changes justified, however, resistance quickly breaks down and may even turn into enthusiasm.

The examples of hidden service providers given previously illustrate one way that resistance to change was overcome at IPS. Other means were used that were also based on the data collected during the initial phases of AVM. Pareto analysis, which is commonly taught as an analytical technique in quality circles, involves sorting a set of items into descending order and focusing quality improvements on the top of the list – i.e., on the largest items.

A Pareto analysis of activity costs is illuminating; managers are often surprised to discover how large the fraction of total costs occurs because of only a few activities. It is also surprising to note *which* activities show up at the top of the list. Managers often have an intuition that the cost of some activity is too high, but intuition alone cannot justify significant investments. The relative positions of activity costs, however, can provide information that was previously unavailable for justifying corrective investments. A similar list of activity costs can be produced for each category of the cost of quality. Having this list allows managers to focus on the top offenders in each area. Focusing attention on the top of a sorted list, however, tells only one half of the story. When Higgins gave one IPS executive an eight-page list of activity costs for the MoneyGram product, the executive was prepared to through away the last seven pages and focus on reducing the largest activity costs on page one. Higgins, however, pointed out that the activities at the bottom of the list are also candidates for attention, because important activities may not be receiving enough resources. For example, a costly activity at the top of the list may represent an internal or external failure cost, while an ignored activity at the bottom of the list may represent a preventive item that, with a small investment, could dramatically reduce the failure-related activity. This example illustrates the difference between value analysis and cost reduction.

Cross-functional and cross-product summaries of activity costs. Perhaps the most powerful analysis enabled by the AVM process are cross-functional and cross-product summaries of activity costs. A matrix is constructed with an indented list of activity hierarchy on the left side and with the major functional areas or the product families across the top.

As the fictionalized example in Exhibit 5 shows, the percentage of cost allocated to the activity "support and service agents" has a wide variance across products. Exhibit 3 shows that the total cost of this activity divided among eight sub-activities. By itself, this observation is interesting, but of limited value. The obvious next question is "Why?" Fortunately, the AVM model provides a response.

Exhibit 5. Cross-Product Analysis

Activity	Product A	Product B	Product C
1 Develop Products etc.			
4 Support and Service Agents	3.0%	7.0%	5.0%
41 Receive and Document Inq.	1.5%	2.0%	2.0%
42 Handle Agent Problems	0.5%	3.5%	0.7%
43 Supply Agents, etc.	1.0%	2.5%	2.3%
Totals	**100.0%**	**100.0%**	**100.0%**

An AVM study includes a record of how each person's time (and therefore salary) is allocated to activities. A department's expense items (other than personnel) are also allocated to the activity. (Note that a department does not allocate its personnel costs as one cost pool.) Thus, if an activity's total cost is out of line or if the cost is oddly split between product lines, the supporting data is easily available for explaining these anomalies. In general, this audit trail of

detailed data is crucial for investigating activity costs.

Comparing ratios of activities. If the old cliché "numbers speak louder than words" applies anywhere, it applies here. The numbers are arrived at through a logical estimation process that is validated through a structured interview with each manager.

Although the numbers may be only estimates, the ratios of activity costs provide powerful information. Suppose, for example, that the ratio between the activities "resolve agent problems" and "train agents" is 20:1. Even if the respective costs are off by 10 percent or even by 25 percent, the size of the ratio still suggests a potential problem and a way to solve it – namely, to reduce agent problems by increasing training. A similar conclusion may be drawn from an analysis of the cost of quality. Agent problems (a cost of external failure) may be reduced by investing in agent training (a cost of prevention). The data provided by AVM support either of these analyses.

Cost of quality has been faulted by the quality expert W. Edwards Deming, who asserts that if you focus on process improvement, the cost of quality will take care of itself. The ease of computing cost of quality within the AVM framework, however, can motivate efforts to change the status quo and to restructure.

Guiding firms in restructuring

To avoid the slash-and-burn mentality of most cost-cutting efforts, a better basis must be provided for decision making. Stephen Roach warns that "cost cutting must be judicious" if service organizations are to avoid the problem that occurred when the manufacturing sector sold its future short by trading long-term capacity requirements for the sake of near-term financial gain.

One of the most useful mechanisms for guiding restructuring is cost driver analysis. Cost drivers cause activities to be performed. They may be positive (customer orders) or negative (customer complaints). By eliminating negative cost drivers, the associated activity costs are also reduced.

During the data collection phase of AVM, each activity is identified as being either mission-related or not (see Exhibit 4). Employees may spend disproportionate time on activities that are not directly related to the mission of their work group. Efforts to restructure the organization should focus on shifting effort toward mission-related activities. For example, are members of the sales department performing the activity "close sales," or are they instead "resolving agent problems" or "preparing department reports"? Only the first activity contributes to the department's mission.

Major work activities are often diffused across the organization. Many different individuals may be involved in an activity that represents only a few full-time-equivalent employees. When activities are highly fragmented, they should automatically be subjected to further analysis. Though some activities should remain distributed among managers, consolidating activities may improve performance. (Budgeting, personnel reviews, and similar tasks are examples of normally fragmented activities that contribute to effective management.)

Empowerment vs. enforcement

The way that AVM information is used can have an important impact. This warning is especially true in promoting a successful TQM strategy, which must have the support and involvement of every employee. If a company uses data about misallocations of resources as a stick that is used to beat people, employees are unlikely to give their heartfelt commitment to

creating and implementing improvements or to producing accurate estimates of activity costs.

Downsizings. There are exceptional situations when activity-based analysis is the best means for quickly downsizing an organization that is having severe profitability problems. Unless AVM is carefully managed, however, it is likely to be viewed as an axe for paring organizational fat. While this approach is superior to the slash-and-burn mentality that cuts necessary activities along with the fat, the benefits are unlikely to become long-term, strategic changes.

Product costing was related to the quality strategy because both tried to answer the difficult questions of how and where information workers spend their time.

The approach IPS uses seeks to empower corrective action teams to develop and implement changes. These teams are armed with copious data for guiding their efforts in the most fruitful directions. AVM process facilitators serve as consultants to the corrective action teams by helping them interpret *their* data and teaching them additional data analysis techniques to restructure their respective organizations, to refocus their efforts, and to refine their processes. This approach is consistent with TQM objectives (e.g., instilling attitudes to promote continuous improvement and establishing quantitative performance measures to assess quality levels and monitor improvement).

Implications for service organization

At IPS, AVM has provided valuable insight into operations and yielded substantial savings in several operational areas. Not surprisingly, AVM uncovered information that could result from a similar study conducted in a manufacturing organization, including:

- High cost areas;
- Costs for systems changes; and
- A more accurate estimation of overhead costs.

At IPS, however, the study went further to identify less tangible – but no less valuable – opportunities for quality improvement.

"The study was helpful in creating a fact base for potential organizational improvements," said Eula Adams, an executive vice-president at IPS who has twenty years of audit experience at a large accounting firm. "In the past, these kinds of changes at service firms were driven largely by opinion – by what people thought would work. Our study provides a solid fact base and, consequently, justification for changing the organization."

Support for organizational improvements. According to Adams, the study garnered support for organizational improvements by identifying areas of overlap and duplication and by focusing attention on non-value-added activities. "Overlap and noncontributing areas are usually fairly evident in manufacturing environments, but that wasn't necessarily the case in the service sector, until now. This study was helpful in identifying those opportunities and indicating how we might address them."

Bob Kuhnemund, the chief financial officer at IPS, agrees with Adam's assessment. He believes that the study is helping to link customer satisfaction to specific organizational activities. "In addition to hard numbers, it helped us develop an understanding for mission-related activities – what's hot and what's not. That's extremely helpful from an

organizational perspective and can have a dramatic impact on overhead costs – reducing in some areas and increasing in others."

Documented savings. Just two months after the AVM study was completed and results tabulated, IPS documented savings in several areas totaling more than $1 million. While creating considerable savings, the changes also created some equally dramatic customer service improvements.

Dan Carrington, vice-president of MoneyGram Operations at IPS, stated that information from AVM led to new ways of streamlining the operating processes of some very important customer functions for MoneyGram. "Normally," he said, "improvements like these are associated with large one-time expenses. But we realized savings of $350,000 and improved the speed of providing these services. These kinds of changes we have to make because we're competing in what many people perceive to be a commodity service area. Also, we have a competitor with more experience; we have to set ourselves apart from their way of doing business."

ABC results. In spite of the rather unlikely emergence of ABC within the Quality Assurance Department at IPS, these testimonials point to the fact that ownership and backing of the AVM approach to cost management transcends the quality function. As Higgins concludes, "The AVM results have now become Accounting's numbers. They own it. But we're also finding out that other areas can own it too – areas like customer service and operations." IPS is currently considering ways of supplementing its existing cost accounting systems with an activity-based approach based on the initial AVM study.

Tying TQM to the bottom line

The AVM project plan provides a structure and methodology for assessing the current situation: where effort is being expended and what value those efforts have from a customer's viewpoint. An activity-based model is used for this assessment, and a number of approaches have been described for guiding a firm's restructuring decisions. But an answer has not been supplied to the CEO's concern about whether the investment that American Express has made in TQM can be tied to improvements in the bottom line.

Using ABC to quantify expected benefits. The results of TQM efforts in a service organization – changes to processes that affect and activity's performance – can be measured by using activity costs to quantify the expected benefits of the change and by computing a return on investment. For finer resolution, activity costs may be separated by department, product, employee classification (e.g., manager, individual contributor, or clerical), or all of the above to better estimate the benefits of a proposed change.

In relatively small-scale AVM studies, activity costs can be traced according to the percentage of time devoted by individual employees. These cost savings can then be accumulated by activity for an accurate estimate of the benefits derived from TQM. These analyses are often performed within corrective action teams at IPS as they progress through the phases of the AVM project plan.

Summary

In the same article mentioned near the beginning of this article, Stephen Roach concludes by saying: "Only with the proper measurement tools in hand can services assess restructuring options." AVM provides such a tool. Roach

suggests that an activity-based value analysis can assist banks in reallocating information technology away from low-value-added activities (e.g., transaction processing and administration) toward more analytical applications (e.g. interest-rate swaps).

To more directly address Roach's concern about redeploying information technology in a firm, AVM might be extended to allocating capital investments to the activity hierarchy. A cross-functional analysis could then yield summaries of information technology investment by functional area for each activity. In a similar manner, both expenses and capital investments could be summarized for those activities related to two or more competitive strategies (or for non-mission-related activities) to analyze the relative cost consumed by each one. If costs of strategies are dramatically out of line with strategic priorities, some form of restructuring would be indicated. ▲

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Notes

1. Subsequent to implementing activity-based costing, IPS and a related group of companies within American Express were spun off into First Data Corporation, an independent corporation which is 54 percent owned by American Express. This article continues to refer to the relationship that IPS had with American Express at the time that this study was conducted.
2. See S.S. Roach, "Service Under Siege – The Restructuring Imperative," *Harv. Bus. Rev.* (Sept.—Oct. 1991): 82-91.
3. See. H.T. Johnson and R.S. Kaplan, *Relevance Lost: The Rise and Fall of Management Accounting* (Boston: Harvard Business School Press, 1987).
4. Strategic cost management, as described by John Shank ("Strategic Cost Management: New Wine, or Just New Bottles?") *Journal of Management Accounting Research* (Fall 1989): 47, calls for integrating strategic considerations into activity-based costing.
5. See T.C. Fowler and B. Higgins, "Organization Analysis Made Easy," *Society of American Value Engineers Conference Proceedings* (Southfield, Mich.: Society of American Value Engineers): 3.1—3.7; and B. Higgins and C.M. Dice, "Quantifying White-Collar Functions," *National Productivity Review* (Summer): 288—302.
6. See J.G. Miller and T.E. Vollmann, "The Hidden Factory," Harv. Bus. Rev. (Sept.—Oct. 1985): 142—150.
7. See M.D. Shields and S.M. Young, "A Behavioral Model for Implementing Cost Management Systems," Journal of Cost Management (Winter 1989): 17—27, for a summary of the factors that contribute to the resistance of an organization and its employees to change.